

REMARKS

By this Amendment, claims 5 and 6 are amended. The amendments to claims 5 and 6 were made for improved conformity with the U.S. practice, and do not narrow the literal scope of the claims and thus do not implicate an estoppel in the application of the doctrine of equivalents. The amendments to claims 5 and 6 were not made for reasons of patentability.

Additionally, claim 13 is added, support for which may be found throughout the specification.

Claims 1-6, and 13 are all the claims pending in the application.

I. Summary of the Office Action

Claims 1-6 presently stand rejected, and claims 5 and 6 are objected to because of minor informalities. Since no rejection of claim 5 is provided, and the sole rejection of claim 6 appears to be intended for claim 1, Applicant assumes these claims contain allowable subject matter. If Applicant's understanding is inaccurate, a new non-final Office Action is respectfully requested that will address claims 5 and 6 on their merits.

II. Claim Objections

The Examiner has objected to claims 5 and 6 as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim.

Claims 5 and 6 are amended to remedy this informality. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the objections.

III. Claim Rejections under 35 U.S.C. § 112, second paragraph

The Examiner has rejected claim 6 under 35 U.S.C. § 112, second paragraph, as being indefinite. Specifically, on page 3 of the Office Action, the Examiner asserts “Claim 6 is indefinite and incomplete since it is not clear, that a gap is formed while the valve is open or the gap is formed while the valve is open[sic]. Further, no element is recited to provide a gap.” Applicant notes that the features relied upon by the Examiner are recited in claim 1, not claim 6. The Examiner’s rejection will be treated accordingly.

Claim 1 recites “a movable valve for opening and closing the openings of the exhaust passages, and forming a small gap with the openings of the exhaust passages when it is closed.” That is, claim 1 clearly recites a movable valve for opening and closing exhaust passages, and that this valve, even when it (the valve) is closed, still forms a small gap with the openings of the exhaust passages. Accordingly, Applicant respectfully submits that claim 1 is patentable under 35 U.S.C. § 112, second paragraph, and reconsideration and withdrawal of the rejection is respectfully requested.

IV. Claim Rejections under 35 U.S.C. § 102(e)

The Examiner has rejected claims 1-4 under 35 U.S.C. § 102(e) as being anticipated by Ishihara (U.S. Patent No. 6,817,848). For at least the following reasons, Applicant respectfully traverses the rejections.

Claim 1 recites “a movable valve for opening and closing the openings of the exhaust passages, and forming a small gap with the openings of the exhaust passages when it is closed.”

Referring to FIG. 4a, which depicts an exemplary embodiment of the present invention, movable valves 17 are mounted at the openings of the air vent. Referring to FIG. 4b, although the opening is closed by the movable valves due to the intake of air by the operation of a vacuum pump connected to the exhaust hole of the mold (FIG. 5a), there are still small gaps formed between the movable valves and the openings (FIG. 4b, G). Accordingly, gas or small plug materials discharged during the vulcanization operation can be released through the small gaps G. In other words, even when the movable valves are closed, a gap is formed between the openings of the exhaust passages. It will be appreciated that the foregoing remarks relate to the invention in a general sense, the remarks are not necessarily limitative of any claims and are intended only to help the Examiner better understand the distinguishing aspects of the claims mentioned above.

In contrast, Ishihara discloses a lid mechanism which seals an air removal aperture for removing air when the lid mechanism is closed (FIG. 2-42; col. 10, lines 22-26). Ishihara's lid **seals** the air removal aperture when the lid is closed, and therefore does not permit a small gap to exist when the lid is closed.

For example, referring to FIGS. 2(a)-2(c) of Ishihara, in FIG. 2(a), ventlid 2a is in the open state, allowing air 18 to exit the blockades 12 through the air removal aperture 1. The lid is kept in the open state by a "spring up" (col. 10, lines 18-20). In FIG. 2(b), air is continued to be discharged while reducing the degree of the "spring up" of the ventlid from a time when the green tire 11 contacts the upper portion 2h of the lid mechanism to a time when it reaches the

surface of the sub-molds 10a (col. 10, lines 22-26). In FIG. 2(c), the green tire 11 is prevented from flowing out of the mold by forming a closed state where the ventlids 2a contact the green tire 11 (col. 10, lines 27-31). When the ventlid 2a is closed, air 18 no longer flows from the blockades 12 through the air removal aperture 1, as no gap exists (FIG. 2(c)).

Referring to FIGS. 6(a)-6(c), Ishihara discloses the lid 3 automatically springing up when the molded tire 14 is separated from the sub-molds 10a. FIG. 6(a), in particular, shows several rubber burrs 13 (outflow of green tire) extending into the air removal aperture when the lid 3 is in the closed state. Accordingly, the rubber burrs 13 would act to prevent the forming of any gap between the lid 3 and the air removal aperture when the lid 3 is in the closed state.

Lastly, FIGS. 9(a)-9(d) show manufacturing methods for Ishihara's ventlids. FIG. 9(c), in particular, shows a gap formed by the ventlid 3. However, the lid 3 is not in a closed state, but is in fact in an open state but is upside down. Secondly, lid 3 does not form a gap with an opening of an exhaust passage as no exhaust passage exists between the top part 15 and bottom part 16, and lastly, top part 15 and bottom part 16 are parts of a mold for ventlid manufacture, and not a vulcanizing mold for rubber molded articles.

Thus, Ishihara fails to teach or suggest "forming a small gap with the openings of the exhaust passages when it [the movable valve] is closed" as recited in claim 1. Accordingly, Applicant respectfully submits that claim 1 is patentable over the applied reference. Applicant further submits that claims 2-4 are patentable at least by virtue of their dependence on claim 1.

V. Claim Rejections under 35 U.S.C. § 102(b)

The Examiner has rejected claims 1-2, and 4 under 35 U.S.C. § 102(b) as being anticipated by Green (U.S. Patent No. 5,922,237). For at least the following reasons, Applicant respectfully traverses the rejection.

As noted above, claim 1 recites: “a movable valve for opening and closing the openings of the exhaust passages, and forming a small gap with the openings of the exhaust passages when it is closed.” Like Ishihara, Green also fails to disclose or suggest forming a small gap when the valve is closed.

Specifically, Green discloses a valve closure member disposed in a hole, wherein when the valve closure member is in the closed position, the hole is sealed (FIGS. 1-4, col. 2, lines 22-31; col. 3, lines 19-21). Green’s valve closure member **seals** the hole when in the closed position, and therefore does not permit a small gap to exist when the closure member is closed. For example, referring to FIGS. 1A-1C, in FIG. 1B, valve closure member 1 is in an open position, allowing air trapped in the mold to escape via the central hole 7, indicated by arrow V (col. 2, lines 42-44). After the trapped air has escaped, the rubber of the tire being expanded into the mold impinges on the valve closing member 1 and forces the valve closing surface 5 into seating engagement with the valve seating surface 6, thereby sealing the central hole 7 and preventing the flow of rubber out of the mold (col. 2, lines 44-48). Additionally, when the valve closure member 1 is in the closed position, as in FIG. 1C, no air escapes via the central hole 7, indicated by the absence of the arrow V, as no gap exists.

Thus, Green fails to teach or suggest "forming a small gap with the openings of the exhaust passages when it [the movable valve] is closed" as recited in claim 1. Accordingly, Applicant respectfully submits that claim 1 is patentable over the applied reference. Applicant further submits that claims 2 and 4 are patentable at least by virtue of their dependence on claim 1.

VI. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

/Nataliya Dvorson/
Nataliya Dvorson
Registration No. 56,616

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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